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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,292	11/07/2001	Shinya Kano	FUJA 19.144	3562
26304	7590	08/01/2005	EXAMINER	
KATTEN MUCHIN ROSENMAN LLP			YAO, KWANG BIN	
575 MADISON AVENUE				
NEW YORK, NY 10022-2585			ART UNIT	PAPER NUMBER
			2667	

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/036,292

Applicant(s)

KANO ET AL.

Examiner

Kwang B. Yao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2001 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/7/01.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 10, 11, 20, 21, 30, 31, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior in view of Goguen et al. (US 6,665,273).

The admitted prior art discloses a communication system comprising the following features: regarding claim 1, (a) transmitting a first message (Fig. 1, packet 18) from a start-point node (Fig. 1, node 1) to an end-point node (Fig. 1, node 5) of the highest-layer path, said first message (Fig. 1, packet 18) carrying a label request for a plurality of layer paths (Fig. 1, L1 path,

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L2 path); (b) mapping (page 2, lines 5-24) labels to the requested paths at each node in response to said label request; regarding claim 10, wherein the label of any one of layer paths (Fig. 1, L1 path, L2 path) is an optical wavelength (page 3, lines 8-15) used; regarding claim 11, a node apparatus for setting up a layer-structured path constructed from multiple layers of paths, comprising: means for generating a first message (Fig. 1, packet 18) which contains a label request for a plurality of layer paths (Fig. 1, L1 path, L2 path), and which is transmitted to an end-point node (Fig. 1, node 5) of the highest-layer path; means for transmitting said generated first message (Fig. 1, packet 18); regarding claim 20, wherein the label of any one of layer paths (Fig. 1, L1 path, L2 path) is an optical wavelength (page 3, lines 8-15) used; regarding claim 21, a node apparatus for setting up a layer-structured path constructed from multiple layers of paths, comprising: means for receiving and then transmitting a first message (Fig. 1, packet 18) that contains a label request for a plurality of layer paths (Fig. 1, L1 path, L2 path), and that is being transferred from a start-point node (Fig. 1, node 1) to an end-point node (Fig. 1, node 5) of the highest-layer path; means for mapping (page 2, lines 5-24) labels to the requested paths in response to said label request; regarding claim 30, wherein the label of any one of layer paths (Fig. 1, L1 path, L2 path) is an optical wavelength (page 3, lines 8-15) used; regarding claim 31, a node apparatus for setting up a layer-structured path constructed from multiple layers of paths, comprising: means for receiving a first message (Fig. 1, packet 18) that is transmitted from a start-point node (Fig. 1, node 1) of the highest-layer path, and that contains a label request for a plurality of layer paths (Fig. 1, L1 path, L2 path); means for mapping (page 2, lines 5-24) labels to the requested paths in response to said label request; regarding claim 32, wherein the label of

any one of layer paths (Fig. 1, L1 path, L2 path) is an optical wavelength (page 3, lines 8-15) used. See pages 1-3 of the present application.

The admitted prior art does not disclose the following features: regarding claim 1, (c) transmitting a second message from the end-point node to the start-point node of said highest-layer path in response to said first message, thereby reporting by means of said second message the labels mapped in said step (b); and (d) storing said reported labels at each node; regarding claim 11, means for receiving a second message as a response to said first message; and means for storing a label that is contained in said received second message as a response to said label request; regarding claim 21, means for receiving a second message as a response to said first message, and for transmitting said second message by including therein the labels mapped by said mapping means; and means for storing the labels contained in said received second message; regarding claim 31, means for transmitting in response to said first message a second message containing therein the labels mapped by said mapping means.

Goguen et al. discloses a communication system comprising the following features: regarding claim 1, (c) transmitting a second message (Fig. 2, SETUP REPLY) from the end-point node (Fig. 2, node Rn) to the start-point node (Fig. 2, node R1) of said highest-layer path in response to said first message (Fig. 2, SETUP REQUEST), thereby reporting by means of said second message (Fig. 2, SETUP REPLY) the labels mapped (column 2, line 41 to column 3, line 5) in said step (b); and (d) storing (Fig. 2, routing table) said reported labels at each node; regarding claim 11, means for receiving a second message (Fig. 2, SETUP REPLY) as a response to said first message (Fig. 2, SETUP REQUEST); and means for storing (Fig. 2, routing table) a label that is contained in said received second message (Fig. 2, SETUP REPLY) as a

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response to said label request; regarding claim 21, means for receiving a second message (Fig. 2, SETUP REPLY) as a response to said first message (Fig. 2, SETUP REQUEST), and for transmitting said second message (Fig. 2, SETUP REPLY) by including therein the labels mapped (column 2, line 41 to column 3, line 5) by said mapping (column 2, line 41 to column 3, line 5) means; and means for storing (Fig. 2, routing table) the labels contained in said received second message (Fig. 2, SETUP REPLY); regarding claim 31, means for transmitting in response to said first message (Fig. 2, SETUP REQUEST) a second message (Fig. 2, SETUP REPLY) containing therein the labels mapped (column 2, line 41 to column 3, line 5) by said mapping (column 2, line 41 to column 3, line 5) means. See column 1-3. It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of the admitted prior art, by using the features, as taught by Goguen et al., in order to provide an efficient data communication by maximizing bandwidth resource. See Goguen et al., column 1, lines 10-12.

4. Claims 2-9, 12-19, 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior in view of Goguen et al. (US 6,665,273) as applied to claims 1, 11, 21 above, and further in view of Fedyk et al. (US 6,560,654).

The admitted prior art and Goguen et al. disclose the claimed limitations above. The admitted prior art and Goguen et al. do not disclose the following features: regarding claim 2, the step of (e) determining, at a start-point node of each path of each layer, whether to set up a new path or to use an already established path, after receiving said first message but before sending out said first message; regarding claim 3, (e) that an already established path should be used rather than setting up a new path, said first message transmitted in said first step (a) contains an

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instruction to use said already established path; regarding claim 4, (e) that an already established path should be used rather than setting up a new path, said first message transmitted in said first step (a) is addressed to an end-point of said already established path; regarding claim 5, (f) determining a relay point for each path of each layer at the start-point node of said each path of each layer; regarding claim 6, the step of (f) determining relay points for all the paths at the start-point node of said highest-layer path; regarding claim 7, wherein said label request contains an instruction as to whether to permit or not to permit the use of an already established path for each path of each layer, and when the use of an already established path is permitted, and when said already established path exists, then it is determined in said step (e) that said already established path should be used; regarding claim 8, wherein said label request contains specification of a required bandwidth, and when said already established path exists, and when available bandwidth on said already established path is not smaller than said required bandwidth, then it is determined in said step (e) that said already established path should be used; regarding claim 9, wherein said label request contains specification of a required bandwidth for each path of each layer, and when said already established path exists, and when available bandwidth on said already established path is not smaller than the bandwidth specified as required for the requested path of the same layer as said already established path, then it is determined in said step (e) that said already established path should be used; regarding claim 12, means for determining whether to set up a new path, or to use an already established path, for a path about to be set up with its own node as a start point; regarding claim 13, wherein when said determining means determines that an already established path should be used rather than setting up a new path for the path about to be set up with its own node as the start point, said message generating means generates

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said first message by including therein an instruction to use said already established path; regarding claim 14, wherein, when said determining means determines that an already established path should be used rather than setting up a new path for the path about to be set up with its own node as the start point, said message generating means generates said first message by setting an end point of said already established path as a destination; regarding claim 15, means for determining a relay point only for the path about to be set up with its own node as the start point; regarding claim 16, means for determining relay points for all the paths of all the layers; regarding claim 17, wherein said label request contains a specification as to whether to permit or not to permit the use of an already established path for each path of each layer; regarding claim 18, wherein said label request contains specification of a required bandwidth; regarding claim 19, wherein said label request contains specification of a required bandwidth for each path of each layer; regarding claim 22, means for determining whether to set up a new path, or to use an already established path, for a path about to be set up with its own node as a start point, said determination being made after receiving said first message but before sending out said first message; regarding claim 23, wherein when said determining means determines that an already established path should be used rather than setting up a new path for the path about to be set up with its own node as the start point, said first message receiving/transmitting means transmits said first message by including therein an instruction to use said already established path; regarding claim 24, wherein when said determining means determines that an already established path should be used rather than setting up a new path for the path about to be set up with its own node as the start point, said first message receiving/transmitting means transmits said first message by setting an end point of said already established path as a destination;



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regarding claim 25, means for determining a relay point for the path about to be set up with its own node as the start point; regarding claim 26, wherein relay points for all the paths of all the layers are determined at the start-point node of the highest-layer path; regarding claim 27, wherein said label request contains an instruction as to whether to permit or not to permit the use of an already established path for each path of each layer, and when the use of an already established path is permitted, and when said already established path exists, then said determining means determines that said already established path should be used; regarding claim 28, wherein said label request contains specification of a required bandwidth, and when said already established path exists, and when available bandwidth on said already established path is not smaller than said required bandwidth, then said determining means determines that said already established path should be used; regarding claim 29, wherein said label request contains a specification of a required bandwidth for each path of each layer, and when said already established path exists, and when available bandwidth on said already established path is not smaller than the bandwidth specified as required for the requested path of the same layer as said already established path, then said determining means determines that said already established path should be used.

Fedyk et al. discloses a communication system comprising the following features:

regarding claim 2, the step of (e) determining, at a start-point node (FIG. 1, SOURCE 12) of each path (FIG. 1, path 18) of each layer, whether to set up a new path (FIG. 1, path 18) or to use an already established path (FIG. 1, path 18), after receiving said first message (FIG. 3, SETUP MESSAGE 302) but before sending out said first message (FIG. 3, SETUP MESSAGE 302); regarding claim 3, (e) that an already established path (FIG. 1, path 18) should be used rather

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than setting up a new path (FIG. 1, path 18), said first message (FIG. 3, SETUP MESSAGE 302) transmitted in said first step (a) contains an instruction to use said already established path (FIG. 1, path 18); regarding claim 4, (e) that an already established path (FIG. 1, path 18) should be used rather than setting up a new path (FIG. 1, path 18), said first message (FIG. 3, SETUP MESSAGE 302) transmitted in said first step (a) is addressed to an end-point of said already established path (FIG. 1, path 18); regarding claim 5, (f) determining a relay point for each path (FIG. 1, path 18) of each layer at the start-point node (FIG. 1, SOURCE 12) of said each path (FIG. 1, path 18) of each layer; regarding claim 6, the step of (f) determining relay points for all the path (FIG. 1, path 18)s at the start-point node (FIG. 1, SOURCE 12) of said highest-layer path (FIG. 1, path 18); regarding claim 7, wherein said label request contains an instruction as to whether to permit or not to permit the use of an already established path (FIG. 1, path 18) for each path (FIG. 1, path 18) of each layer, and when the use of an already established path (FIG. 1, path 18) is permitted, and when said already established path (FIG. 1, path 18) exists, then it is determined in said step (e) that said already established path (FIG. 1, path 18) should be used; regarding claim 8, wherein said label request contains specification of a required bandwidth (column 3, lines 18-30; column 5, lines 13-30; column 6, lines 29-65; column 7, lines 7-43), and when said already established path (FIG. 1, path 18) exists, and when available bandwidth (column 3, lines 18-30; column 5, lines 13-30; column 6, lines 29-65; column 7, lines 7-43) on said already established path (FIG. 1, path 18) is not smaller than said required bandwidth (column 3, lines 18-30; column 5, lines 13-30; column 6, lines 29-65; column 7, lines 7-43), then it is determined in said step (e) that said already established path (FIG. 1, path 18) should be used; regarding claim 9, wherein said label request contains specification of a required

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bandwidth (column 3, lines 18-30; column 5, lines 13-30; column 6, lines 29-65; column 7, lines 7-43) for each path (FIG. 1, path 18) of each layer, and when said already established path (FIG. 1, path 18) exists, and when available bandwidth (column 3, lines 18-30; column 5, lines 13-30; column 6, lines 29-65; column 7, lines 7-43) on said already established path (FIG. 1, path 18) is not smaller than the bandwidth (column 3, lines 18-30; column 5, lines 13-30; column 6, lines 29-65; column 7, lines 7-43) specified as required for the requested path (FIG. 1, path 18) of the same layer as said already established path (FIG. 1, path 18), then it is determined in said step (e) that said already established path (FIG. 1, path 18) should be used; regarding claim 12, means for determining whether to set up a new path (FIG. 1, path 18), or to use an already established path (FIG. 1, path 18), for a path (FIG. 1, path 18) about to be set up with its own node as a start point; regarding claim 13, wherein when said determining means determines that an already established path (FIG. 1, path 18) should be used rather than setting up a new path (FIG. 1, path 18) for the path (FIG. 1, path 18) about to be set up with its own node as the start point, said message generating means generates said first message (FIG. 3, SETUP MESSAGE 302) by including therein an instruction to use said already established path (FIG. 1, path 18); regarding claim 14, wherein, when said determining means determines that an already established path (FIG. 1, path 18) should be used rather than setting up a new path (FIG. 1, path 18) for the path (FIG. 1, path 18) about to be set up with its own node as the start point, said message generating means generates said first message (FIG. 3, SETUP MESSAGE 302) by setting an end point (FIG. 1, DESTINATION 14) of said already established path (FIG. 1, path 18) as an destination; regarding claim 15, means for determining a relay point only for the path (FIG. 1, path 18) about to be set up with its own node as the start point; regarding claim 16, means for determining relay

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points for all the path (FIG. 1, path 18)s of all the layers; regarding claim 17, wherein said label request contains a specification as to whether to permit or not to permit the use of an already established path (FIG. 1, path 18) for each path (FIG. 1, path 18) of each layer; regarding claim 18, wherein said label request contains specification of a required bandwidth (column 3, lines 18-30; column 5, lines 13-30; column 6, lines 29-65; column 7, lines 7-43); regarding claim 19, wherein said label request contains specification of a required bandwidth (column 3, lines 18-30; column 5, lines 13-30; column 6, lines 29-65; column 7, lines 7-43) for each path (FIG. 1, path 18) of each layer; regarding claim 22, means for determining whether to set up a new path (FIG. 1, path 18), or to use an already established path (FIG. 1, path 18), for a path (FIG. 1, path 18) about to be set up with its own node as a start point, said determination being made after receiving said first message (FIG. 3, SETUP MESSAGE 302) but before sending out said first message (FIG. 3, SETUP MESSAGE 302); regarding claim 23, wherein when said determining means determines that an already established path (FIG. 1, path 18) should be used rather than setting up a new path (FIG. 1, path 18) for the path (FIG. 1, path 18) about to be set up with its own node as the start point, said first message (FIG. 3, SETUP MESSAGE 302) receiving/transmitting means transmits said first message (FIG. 3, SETUP MESSAGE 302) by including therein an instruction to use said already established path (FIG. 1, path 18); regarding claim 24, wherein when said determining means determines that an already established path (FIG. 1, path 18) should be used rather than setting up a new path (FIG. 1, path 18) for the path (FIG. 1, path 18) about to be set up with its own node as the start point, said first message (FIG. 3, SETUP MESSAGE 302) receiving/transmitting means transmits said first message (FIG. 3, SETUP MESSAGE 302) by setting an end point (FIG. 1, DESTINATION 14) of said already

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established path (FIG. 1, path 18) as an destination; regarding claim 25, means for determining a relay point for the path (FIG. 1, path 18) about to be set up with its own node as the start point; regarding claim 26, wherein relay points for all the path (FIG. 1, path 18)s of all the layers are determined at the start-point node (FIG. 1, SOURCE 12) of the highest-layer path (FIG. 1, path 18); regarding claim 27, wherein said label request contains an instruction as to whether to permit or not to permit the use of an already established path (FIG. 1, path 18) for each path (FIG. 1, path 18) of each layer, and when the use of an already established path (FIG. 1, path 18) is permitted, and when said already established path (FIG. 1, path 18) exists, then said determining means determines that said already established path (FIG. 1, path 18) should be used; regarding claim 28, wherein said label request contains specification of a required bandwidth (column 3, lines 18-30; column 5, lines 13-30; column 6, lines 29-65; column 7, lines 7-43), and when said already established path (FIG. 1, path 18) exists, and when available bandwidth (column 3, lines 18-30; column 5, lines 13-30; column 6, lines 29-65; column 7, lines 7-43) on said already established path (FIG. 1, path 18) is not smaller than said required bandwidth (column 3, lines 18-30; column 5, lines 13-30; column 6, lines 29-65; column 7, lines 7-43), then said determining means determines that said already established path (FIG. 1, path 18) should be used; regarding claim 29, wherein said label request contains a specification of a required bandwidth (column 3, lines 18-30; column 5, lines 13-30; column 6, lines 29-65; column 7, lines 7-43) for each path (FIG. 1, path 18) of each layer, and when said already established path (FIG. 1, path 18) exists, and when available bandwidth (column 3, lines 18-30; column 5, lines 13-30; column 6, lines 29-65; column 7, lines 7-43) on said already established path (FIG. 1, path 18) is not smaller than the bandwidth (column 3, lines 18-30; column 5, lines

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13-30; column 6, lines 29-65; column 7, lines 7-43) specified as required for the requested path (FIG. 1, path 18) of the same layer as said already established path (FIG. 1, path 18), then said determining means determines that said already established path (FIG. 1, path 18) should be used. See column 1-8. It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of the admitted prior art and Goguen et al., by using the features, as taught by Fedyk et al., in order to have an efficient data communication by providing a timely updated of topology information. See column 1, lines 53-54.

### *Conclusion*

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lee et al. (US 6,879,594) discloses a system for loop avoidance.

Hama (US 2004/0202171) discloses a network and edge router.

Nomura (US 2002/0103924) discloses a method for allocating network bandwidth.

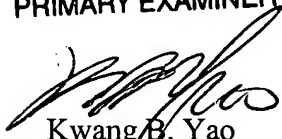
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwang B. Yao whose telephone number is 571-272-3182. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KWANG BIN YAO  
PRIMARY EXAMINER



Kwang B. Yao  
July 26, 2005